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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/009,729	01/31/2002	Kakuji Miyata	108421-00029	5987

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EXAMINER

HARRIS, STEPHANIE N

ART UNIT PAPER NUMBER

3636

DATE MAILED: 03/26/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicati n No.

10/009,729

Applicant(s)

MIYATA ET AL.

Examiner

Stephanie N. Harris

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3, 7. 6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, line 23, the phrase "applied to the seat back is provided", is unclear thus rendering the claim indefinite.

Regarding claim 6, line 3, the phrase "with another", is unclear thus rendering the claim indefinite. It appears that there is only one linear protrusion and it is unclear how one linear protrusion can be in contact "with another".

Regarding claim 8, line 10, the phrase "at least one by one in each of the slide gears", is unclear thus rendering the claim indefinite. It appears that there is only one holding member.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the

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applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 2, 3, 4, 7, and 8 are rejected under 35 U.S.C. 102(e) as being anticipated by Benoit et al. (USPN 6007153).

Regarding claim 1, Benoit et al. discloses a reclining apparatus that is comprised of a fixed plate (11) with a first guide portion (17) that has a pair of mutually opposing guide walls. A second guide portion (17) also has a pair of mutually opposing guide walls as seen in Figures 3 and 5. A shaft (8) is provided in the fixed plate to freely rotate around an axis in a horizontal direction. A rotary plate (13) can relatively rotate around the shaft with respect to the fixed plate. An internal gear (25) is formed along a circular arc around the rotary plate.

A first slide gear (23) is received between the guide walls of the first guide portion and freely moves between a lock position, engaged with the internal gear, and a lock canceling position, which moves apart from the internal gear as seen in Figure 5. A second slide gear (23) is received between the guide walls of the second guide portion and can freely move between a lock position engaged with the internal gear and a lock canceling position, moving apart from the internal gear as seen in Figure 5 (Col. 7, lines 3-17).

A cam member (29) is provided between the first slide gear and the second slide gear. The cam member simultaneously drives the slide gears between the lock position and the lock canceling position (Col. 7, lines 17-18).

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A supporting portion is formed on the cam member. The supporting portion has an inclined surface that prevents the slide gear from moving in a direction of rotational moment applied to the slide gear due to a backward load applied to the seat back. The seat back is provided in a portion in which the cam member and the slide gear are opposed to each other as seen in Figure 5.

Regarding claim 2, the cam member has a pair of hook portions that engage the receiving portions formed in the first and second slide gears. The hook portion and the receiving portion have a cam surface that presses the slide gear to the internal gear in a condition in which the cam member rotates in the direction of the lock position as seen in Figures 2 and 5,

The hook portion and the receiving portion are formed in a shape that displaces the slide gear in an opposite direction to the rotational moment applied to the slide gear due to the backward load applied to the seat back when the cam member rotates in the lock canceling direction Col. 7, lines 32-44).

Regarding claim 3, the hook portion and the receiving portion are provided near a center line of the slide gear in an area inside both side surfaces of the slide gear as seen in Figures 2 and 5.

Regarding claim 4, a bracket (44) is fixed to the fixed plate near the shaft. A spiral spring (51) has an inner peripheral end portion that is engaged with the bracket and an outer peripheral end portion that is engaged with the rotary plate as seen in Figure 11 (Col. 8, lines 12-40). The spiral spring rotates the rotary plate in a direction that tilts the seat back forward as seen in Figure 1.

The bracket is provided with a vertical plate (48) portion that protrudes out from an end surface of the fixed plate (11) in an axial direction to engage with an inner peripheral side end portion of the spring as seen in Figure 14. A bottom plate (49) portion extends toward the shaft (8) from an edge portion in the fixed plate (11) side of the vertical plate portion. The bracket is fixed to the fixed plate by the bottom plate portion.

The vertical plate portion is formed in a substantially semicircular cylindrical shape around the shaft as seen in Figure 11. A plurality of notches (45) extends to the vertical plate portion and the bottom plate portion. The plurality of notches are formed in a crossing portion between the vertical plate portion and the bottom plate portion. The convex portions are fitted into the notches that are provided in the fixed plate.

Regarding claim 7, an urging member (30) is interposed between the fixed plate (11) and the rotary plate (13). The urging member rotates the rotary plate in a direction that tilts the seat back forward as seen in Figure 1.

A center of an engaging position between the first and second slide gears and the internal gear can be arranged on a line vertically crossing a line along a standard tilt angle of the seat back and passing through a center of rotation of the rotary plate.

Regarding claim 8, a holding member (31) is provided in the fixed plate (11). The holding member rotably supports the rotary plate (13) and prevents the rotary plate from breaking away from the fixed plate (Col. 7, lines 27-51).

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An urging member (30) is interposed between the fixed plate and the rotary plate. The urging member rotates the rotary plate in a direction that tilts the seat back forward (Col. 7, lines 18-27).

The holding member is provided close to each of the slide gears. The holding member is in contact with the slide gears. A part of the portion holding the rotary plate of the holding member is located within a range of a width extending in an engaging direction of the slide gear.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Benoit et al. in view of Matsuura et al. (USPN 5813724)

Regarding claim 6, Benoit et al. discloses a linear protrusion (located by numeral 11 in Figure 7) in the fixed plate. The linear protrusion can be in slidable contact with another linear protrusion. The linear protrusion are provided all around the periphery of the shaft as seen in Figure 3.

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Benoit et al. shows all of the teachings of the claimed invention but fails to show the use of a pin protrudes to the fixed plate side along an axial direction and engaged with a spiral spring.

Regarding claim 5, Matsuura et al. discloses a pin (16) that protrudes to a fixed plate (10) side along an axial direction that is provided in an outer peripheral portion of a rotary plate (12) as seen in Figures 1 and 2. An outer peripheral side end portion of a spiral spring (18) is engaged with the pin (Col. 3, lines 20-33). A flange (66) prevents the fixed plate from breaking away from the rotary plate. The flange is provided at a middle position between the spiral spring and the fixed plate in the pin as seen in Figure 2.

A stopper (64) is brought into contact with the pin when the fixed plate and the rotary plate are relatively rotated at a predetermined angle as seen in Figure 2. The stopper is provided in the outer peripheral portion of the fixed plate via a bearing plate (30) (Col. 3, lines 36-45 and 63-65).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the fixed plate of Benoit et al. with the pin and spring, as shown by Matsuura et al., in order to provide additional locking means for the reclining apparatus.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following patents are cited to further show the state of the art with respect to reclining apparatuses: U.S. Pat. No. 6092874 to Kojima et al., U.S. Pat.

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No. 6039400 to Yoshida et al., U.S. Pat. No. 5873630 to Yoshida et al., U.S. Pat. No. 5988751 to Yoshida et al., U.S. Pat. No. 5622407 to Yamada et al., U.S. Pat. No. 6474740 to Kondo et al., U.S. Pat. No. 6253894 to Schumann et al., U.S. Pat. No. 6164723 to Ganot, U.S. Pat. No. 5816656 to Hoshihara et al., U.S. Pat. No. 6023994 to Yoshida, U.S. Pat. No. 6024410 to Yoshida, and U.S. Pat. No. 6112370 to Blanchard et al.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephanie N. Harris whose telephone number is 703-305-1838. The examiner can normally be reached on Monday-Friday from 9am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Cuomo, can be reached on (703) 308-0827. The fax phone number for the organization where this application or proceeding is assigned is 703-305-7687.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.

SNH

March 22, 2003


Peter M. Cuomo
Supervisory Patent Examiner
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